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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,532	04/20/2004	Michael A. Jones	122748.00003US3	6215

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EXAMINER	
LU, JIPING	
ART UNIT	**PAPER NUMBER**
3749	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/828,532	JONES, MICHAEL A.	
	Examiner	Art Unit	
	Jiping Lu	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *31-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/13/06 has been entered.

Reissue Applications

2. The amendment filed 12/13/2006 proposes amendments to specification and claims that do not comply with 37 CFR 1.173(b), which sets forth the manner of making amendments in reissue applications. A supplemental paper correctly amending the reissue application is required. For example, the canceled original claims 1-19 must be reproduced and provided with brackets for deletion. New claims higher than the original claims must be underlined by entirety.

3. Claims 31-36 are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows:

The claimed peripheral wall in the calcination zone "being substantially free from refractory insulation along said part of said calcinations zone" is deemed to be new matter not supported by the originally filed specification. Nowhere in the specification does the applicant describe the improvement or utility of free from refractory insulation in the peripheral wall of the

calcination zone. The alleged support in the original specification col. 6, lines 19-27, failed to specify "the peripheral wall being substantially free from refractory insulation along said part of said calcinations zone".

4. The reissue oath/declaration filed with this application is defective (see 37 CFR 1.175 and MPEP § 1414) because of the following: the reissue oath or declaration failed to recite the alleged error regarding the peripheral wall being substantially free from refractory insulation along part of the calcinations zone and error regarding at least 1700^0F in the calcinations zone.

5. Claims 31-36 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 31-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed peripheral wall in the calcination zone "being substantially free from refractory insulation along said part of said calcinations zone" is deemed to be new matter not

supported by the originally filed specification. Nowhere in the specification does the applicant describe the improvement or utility of a part of the peripheral wall of the calcination zone being substantially free from refractory insulation. The alleged support in the original specification col. 6, lines 19-27, failed to specify the arrangement of material along a part of the peripheral wall of calcinations zone being substantially free from refractory insulation. Therefore, col. 6, lines 19-27 are insufficient to show full support of the newly added limitations. The applicant must point out each and every word in the broad claim 31 where the support can be found in the original specification. In particular, the last three lines of the broad claim 31. The applicant must point out a. the exact part of the peripheral wall substantially along the cyclonic flow path the particulate material being transported through and b. what and where that part of the peripheral wall is substantially free of refractory insulation.. The words "being substantial free of refractory insulation along said part of the calcination zone" are simply not found in the original drawings or in the specification. Please explain where in the specification shows "substantially free of refractory insulation".

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 31-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claimed limitation of "being substantially free from refractory insulation along said part of said calcinations zone" in claim 31 is a negative limitation that rendered the claims indefinite because it was an attempt to claim the invention by excluding what the inventors did

not invent rather than distinctly and particularly pointing out what they did invent. In re Schechter, 205 F.2d 185.98 USPQ 144 (CCPA 1953). The specification fails to explain what "substantially free from refractory insulation" is. Nowhere in the specification does the applicant describe the improvement or utility of substantially free from refractory insulation in a part of the peripheral wall of the calcination zone. Moreover, the words "substantially free from refractory insulation" are also indefinite in this case because it is not understood what "substantially" is. How substantial is substantial? On page 8 of the Remarks of July 6, 2006, the applicant argued that the peripheral walls of the calcinations zone in the prior art references are completely lined with refractory insulation. If the refractory insulation in the prior art references were to be removed or eliminated, then, it will result in significant damage to the reactor. Here, the broad claim 31 contains language "substantially free from refractory insulation" which one may infer the claimed structure is intended to damage the reactor. In the final rejection of 9/22/06, the examiner asked if this is correct. The applicant's answer was affirmative. The applicant further stated at the bottom of page 11 to top of page 12 of the Remark of 12/13/06, that the applicant has successfully operated the reactor a high temperature with the peripheral wall substantially free of refractory insulation. The examiner now requests that the applicant to provide affidavits with test data and report to substantiate this answer and conclusion. The affidavit with test data and supporting report must provide the exact percentage of the surface area and/or percentage of refractory insulation eliminated along the part of calcinations zone. The examiner still wants to know how substantial is substantial.

Claim Rejections - 35 USC § 102/103

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 31-36 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Makris et al (U. S. Pat. 5,713,734).

Claims are structurally met by the Makris et al. Makris et al disclose a calcination plant for a particulate material same as the applicant's. The plant also includes a calcination zone or cyclone separator 4, means 20, 30 for generating a temperature of at least 1700^0F in the calcinations zone and means 2 for transporting particulate material through at least part of the calcinations zone along a substantially cyclone path. The peripheral wall at the calcinations zone of Makris et al. is substantially free from refractory insulation. It is noted that Makris et al. do not expressly state in the specification that the refractory insulation is used. The claim is directed to an absence of an element, e.g. refractory insulation. Therefore, Makris patent does

structurally read on the broad claim 31. Or in the alternative, it is deemed to be an obvious matter to reduce the use of refractory insulation along a part of the peripheral wall of the cyclone separator in order to increase the heat conduction during heating and save cost as pointed out in the applicant's argument. Moreover, even if the calcinations plant of Makris et al. uses refractory insulation, it would have been obvious to one having ordinary skill in the art at the time the invention was made to eliminate the substantially amount of refractory material and its function from Makris et al.'s calcinations plant in order to save cost, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. Ex parte Wu, 10 USPQ 2031; In re Larson, 340 F 2d 965, 144 USPQ 347 (CCPA 1965) and In re Kuhle, 526 F 2d. 553, 188 USPQ 7 (CCPA 1975). On page 8 of the Remarks of July 6, 2006, the applicant argued that the peripheral walls of the calcinations zone in the prior art references are completely lined with refractory insulation. If the refractory insulation in the prior art references were to be removed or eliminated, then, it will result in significant damage to the reactor. Here, the broad claim 31 contains language "substantially free from refractory insulation" which one may infer the claimed structure is intended to damage the reactor. In the final rejection of 9/22/06, the examiner asked if this is correct. The applicant's answer was affirmative. The applicant further stated at the bottom of page 11 to top of page 12 of the Remark of 12/13/06, that the applicant has successfully operated the reactor a high temperature with the peripheral wall substantially free of refractory insulation. The examiner now requests that the applicant to provide affidavits with test data and report to substantiate this answer and conclusion. The affidavit with test data and report must provide the exact percentage of the surface area and/or percentage of refractory

insulation eliminated along the part of calcinations zone. The examiner still wants to know how substantial is substantial.

For claim 32, it is deemed to be inherent function of heating process. Whenever, the rate of retention of the particulate materials changes, the dissipation of heat also changes the temperature in the calcinations zone. This is a natural phenomenon. For claims 35 and 36, see burner 13.

13. Claims 31-36 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nishida et al (U. S. Pat. 3,881,862).

Nishida et al. disclose a calcination plant for a particulate material same as the applicant's. The plant also includes a calcination zone or cyclone separator 11, means 11, 14 for generating a temperature of at least 1700^0F in the calcinations zone and means 2A-2D for transporting particulate material through at least part of the calcinations zone along a substantially cyclone path. The peripheral wall at the calcinations zone of Nishida et al. is substantially free from refractory insulation. It is noted that Nishida et al do not expressly stated in the specification that a substantial amount of refractory insulation is used. The broad claim 31 is directed to an absence of an element, e.g. substantially free from refractory insulation. Therefore, Nishida et al patent does structurally read on the broad claim 31. Or in the alternative, it is deemed to be an obvious matter to reduce the use of refractory insulation along a part of the peripheral wall of the cyclone separator in order to increase the heat conduction during heating and save cost. Moreover, even if the calcinations plant of Nishida et al. uses refractory insulation, it would have been obvious to one having ordinary skill in the art at the time the invention was made to eliminate the substantially amount of refractory material and its

function from Nishida et al.'s calcinations plant in order to save cost, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. Ex parte Wu, 10 USPQ 2031; In re Larson, 340 F 2d 965, 144 USPQ 347 (CCPA 1965) and In re Kuhle, 526 F 2d. 553, 188 USPQ 7 (CCPA 1975). On page 8 of the Remarks of July 6, 2006, the applicant argued that the peripheral walls of the calcinations zone in the prior art references are completely lined with refractory insulation. If the refractory insulation in the prior art references were to be removed or eliminated, then, it will result in significant damage to the reactor. Here, the broad claim 31 contains language "substantially free from refractory insulation" which one may infer the claimed structure is intended to damage the reactor. In the final rejection of 9/22/06, the examiner asked if this is correct. The applicant's answer was affirmative. The applicant further stated at the bottom of page 11 to top of page 12 of the Remark of 12/13/06, that the applicant has successfully operated the reactor a high temperature with the peripheral wall substantially free of refractory insulation. The examiner now requests that the applicant to provide affidavits with test data and report to substantiate this answer and conclusion. The affidavit with test data and report must provide the exact percentage of the surface area and/or percentage of refractory insulation eliminated along the part of calcinations zone. The examiner still wants to know how substantial is substantial.

For claim 32, it is deemed to be inherent function of heating process. Whenever, the rate of retention of the particulate materials changes, the heat dissipation will change the temperature in the calcinations zone. This is a natural phenomenon. For claims 35 and 36, see burner 8.

Response to Arguments

14. Applicant's arguments filed 12/13/2006 have been fully considered but they are not persuasive to overcome the rejection. First broad claims fail to structurally define over the prior art references. Please point out from the claims if any structural limitations that the prior art references do not show or teach. Second, on page 7 of the Remark of 12/13/06, the applicant argued that the col. 6, lines 19-27 shows the support of the broad claim language in claim 31 "the peripheral wall being substantially free from refractory insulation along a part of said calcinations zone". The examiner disagrees. The specification in col. 6, lines 19-27, simply is insufficient to show full support of the newly added limitations. Col. 6, lines 19-27 only mentions something about eliminating the needs of the refractory insulation. Col. 6 does not expressly or impliedly require "the peripheral wall being substantially free from refractory insulation along a part of said calcinations zone". The applicant attempted to interpret that "omission of refractory insulation from an entire calcinations zone inherently includes the omission of refractory insulation from part of the calcinations zone". The examiner simply disagrees with such stretch of the interpretation of the language as used in Col. 6, lines 19-27. Therefore, the examiner maintains that the newly added limitation in the last three lines of claim 31 constitutes new matter not supported by the originally filed specification. The applicant also argued that the added new limitation is clearly visible in the original drawings. The examiner also disagrees because the drawings do not remotely show or suggest "the peripheral wall being substantially free from refractory insulation along a part of said calcinations zone". Page 9 of the Remarks of 12/13/06, the applicant argued it is not required to point out the exact part of the peripheral wall of the calcinations zone. The examiner has difficulty to determine exactly what

the applicant is trying to claim which resulted in this 112 rejection. Lastly, the applicant argued that it is not obvious to have "the peripheral wall being substantially free from refractory insulation along a part of said calcinations zone". The examiner disagrees because it is well settled that to eliminate an element and its function is deemed to be obvious in absence of any new or unexpected result. In this case, it is clear to eliminate or substantially reduce the refractory insulation along a part of the peripheral wall of the calcination zone and its reduced insulating function would have been obvious in order to increase the heat conduction during heating and save cost.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jiping Lu whose telephone number is 571 272 4878. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, COCKS JOSIAH can be reached on 571 272-4874. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jiping Lu
Primary Examiner
Art Unit 3749

J. L.